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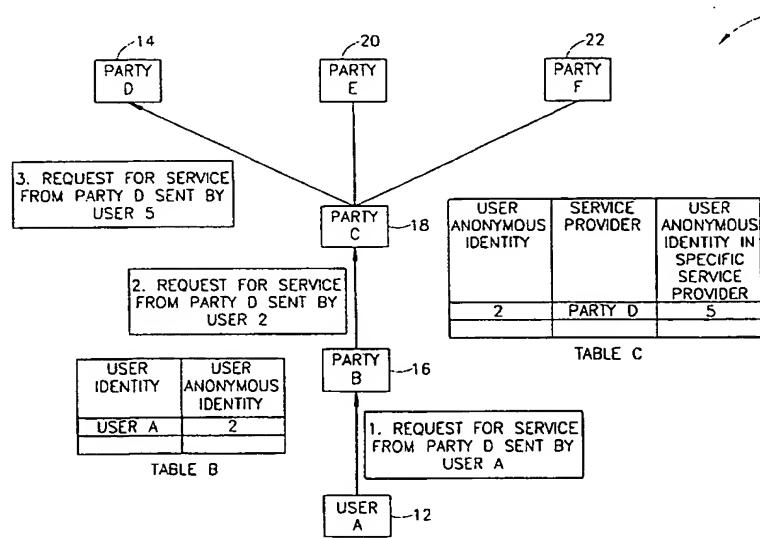
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(54) Title: SYSTEM AND METHOD FOR ANONYMOUS BUT PERSONALIZED PROVISION OF SERVICES



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(57) Abstract: A system and a method for providing a service to a user, optionally through a cellular telephone. The present invention enables the user to send the request to a mediator which is able to identify the user, for example for billing purposes. The mediator then masks the identity of the user, for example with a fictional identity. The request for the service is then sent to a service provider, optionally directly from the mediator, but more preferably through a service request center. The service request center is optionally able to contact a plurality of service providers to request services. The service is then provided to the user, without the service provider being aware of the identity of the user, yet while still being able to provide personalized services specifically for that user.

SYSTEM AND METHOD FOR ANONYMOUS
BUT PERSONALIZED PROVISION OF SERVICES

FIELD AND BACKGROUND OF THE INVENTION

5 The present invention relates to a system and a method for the anonymous provision of services to subscribers, and in particular, to such a system and method in which such services are provided for data transmission to a cellular telephone according to a fictional identity, such that the service can be personalized for the subscriber without the true identity of the subscriber being known to the service provider.

10 Cellular telephones have recently become increasingly popular for mobile voice communication, as well as for the exchange of text messages and other types of data. For voice communication, cellular telephone systems provide similar services as the fixed, wire-based telephony system, or PSTN (public switched telephony network), except that cellular telephone systems are based upon signal transmission through radio frequency signals rather than wires.

15 Hence, cellular telephones are also termed "wireless telephones", and communication over such telephones is termed "wireless communication".

One advantage of cellular telephones is that they permit mobile communication, such that subscribers are able to communicate while traveling, or otherwise when they are not at a fixed physical location. In addition, cellular telephones permit subscribers to be contacted regardless 20 of the location of the subscribers. These advantages of mobile communication are also useful for the exchange of data, such as for text messages and even Web pages, for example. Cellular telephones are able to receive text messages through message exchange protocols such as SMS (short message service), for example, which permit one-to-one communication between cellular telephones through text messages. In addition, the WAP (wireless application protocol) protocol 25 enables cellular telephones, which are WAP-enabled to receive Web pages. Thus, cellular telephones potentially provide a full communication solution for all of the different types of electronic communication for a subscriber.

However, currently such data transmission services can only be provided to a specific subscriber at a specific cellular telephone, such that the identity of the subscriber is known to the 30 service provider. The subscriber can therefore receive services anonymously only if the identity of the subscriber is completely unknown, such that personalization is not possible, which is a serious disadvantage. This problem also exists for regular computers which are connected to the Internet, in that subscribers who are connected to a service provider through a computer must

also be identified in order to receive services. Various "anonymizer" mechanisms exist, which attempt to mask the identity of the subscriber for certain specific purposes, such as for sending e-mail (electronic mail) messages for example. However, such mechanisms cannot be used to actually provide services to the subscriber. In particular, these mechanisms do not permit the subscriber to have an identity of some type, which is not the actual identity of the subscriber, yet which enables the subscriber to be identified to the service provider. Furthermore, such an "anonymous identity" would be preferably unique for a particular subscriber and specific to a particular service provider, in order to prevent cross-referencing of information between different service providers.

10 A more useful solution would enable services to be provided anonymously to the subscriber, such that the subscriber could receive data transmissions through cellular telephones, or various types of services through the Internet on a computer, without being known to the service provider according to the actual identity of the subscriber, while still enabling the service provider to determine which subscriber is requesting the service. Furthermore, such a 15 mechanism would even enable the subscriber to pay for such services as required, while still maintaining the anonymity of the subscriber to the service provider. Unfortunately, such a solution is not currently available.

Therefore, there is an unmet need for, and it would be highly useful to have, a system and a method for the anonymous provision of services to a subscriber from a service provider, 20 particularly for data transmissions to cellular telephones, even if the subscriber is required to pay for such services to the service provider, and such that the service is provided according to a fictional identity, such that the service can be personalized for the subscriber without the true identity of the subscriber being known to the service provider.

25 **SUMMARY OF THE INVENTION**

The present invention is of a system and a method for providing a service to a user according to a fictional identity, optionally through a cellular telephone. The present invention enables the user to send the request to a mediator which is able to identify the user, for example for billing purposes. The mediator then masks the true identity of the user, for example with a 30 fictional identity. The request for the service is then sent to a service provider, optionally directly from the mediator, but more preferably through a service request center. The service request center is optionally able to contact a plurality of service providers to request services. The service is then provided to the user, without the service provider being aware of the true

identity of the user, yet while still being able to provide personalized services specifically for that user. Preferably, the same fictional identity is given for the same user for the particular service provider, in order to maintain personalization. Optionally and more preferably, a different fictional identity is given for the same user for different service providers, in order to prevent these service providers from cross-referencing information in order to track the behavior of the user according to the fictional identity.

According to the present invention, there is provided a method for providing a service to a user according to a fictional identity through a mediator, the user operating a computational device, the method comprising the steps of: (a) sending a request for the service by the user through the computational device; (b) receiving the request by the mediator; (c) assigning a fictional identity to the user by the mediator; and (d) submitting the request to a service provider by the mediator according to the fictional identity.

According to another embodiment of the present invention, there is provided a system for providing a service to a user according to a fictional identity, the system comprising: (a) a computational device for operation by the user; (b) a mediator provider for receiving a request for the service by the user through the computational device, the mediator provider assigning the fictional identity to the user; (c) a service request center for receiving the request from the mediator provider according to the fictional identity; and (d) a service provider for receiving the request from the service request center, and for providing the service.

Hereinafter, the terms "subscriber" and "user" are used interchangeably to refer to an individual who receives a service through a cellular telephone and/or computational device.

Hereinafter, the term "network" refers to a connection between any two or more computational devices which permits the transmission of data.

Hereinafter, the term "computational device" includes, but is not limited to, personal computers (PC) having an operating system such as DOS, WindowsTM, OS/2TM or Linux; MacintoshTM computers; computers having JAVATM-OS as the operating system; graphical workstations such as the computers of Sun MicrosystemsTM and Silicon GraphicsTM, and other computers having some version of the UNIX operating system such as AIXTM or SOLARISTM of Sun MicrosystemsTM; or any other known and available operating system, or any device, including but not limited to: laptops, hand-held computers, PDA (personal data assistant) devices, cellular telephones, any type of WAP (wireless application protocol) enabled device, wearable computers of any sort, and any device which can be connected to a network as previously defined and which has an operating system. Hereinafter, the term "WindowsTM"

includes but is not limited to Windows95™, Windows NT™, Windows98™, Windows CE™, Windows2000™, and any upgraded versions of these operating systems by Microsoft Corp. (USA). Hereinafter, the term "computer" is used interchangeably with "computational device".

5 Hereinafter, the term "cellular telephone" refers to any type of wireless or cordless device which is capable of data transfer through a radio frequency signal, optionally through a connection to the PSTN (public switched telephone network).

10 For the present invention, a software application could be written in substantially any suitable programming language, which could easily be selected by one of ordinary skill in the art. The programming language chosen should be compatible with the computational device according to which the software application is executed. Examples of suitable programming languages include, but are not limited to, C, C++ and Java.

15 In addition, the present invention could be implemented as software, firmware or hardware, or as a combination thereof. For any of these implementations, the functional steps performed by the method could be described as a plurality of instructions performed by a data processor.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is herein described, by way of example only, with reference to the accompanying drawings, wherein:

20 FIG 1. is a schematic block diagram of an exemplary system according to the present invention; and

FIG. 2 is a flowchart of an exemplary method according to the present invention for operating the system of Figure 1.

25 DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention is of a system and a method for providing service to a user, optionally through a cellular telephone, according to a fictional identity. The present invention enables the user to send the request to a mediator which is able to identify the user, for example for billing purposes. The mediator then masks the identity of the user, for example with a 30 fictional identity. The request for the service is then sent to a service provider, optionally directly from the mediator, but more preferably through a service request center. The service request center is optionally able to contact a plurality of service providers to request services. The service is then provided to the user, without the service provider being aware of the true

identity of the user, yet while still being able to provide personalized services specifically for that user.

The principles and operation of the present invention may be better understood with reference to the drawings and the accompanying description.

5 Referring now to the drawings, Figure 1 is a schematic block diagram of a system according to the present invention. It should be noted that although both the system of the present invention and the method of operation thereof are explained with regard to cellular telephones, this is for the purposes of explanation only and is not intended to be limiting in any way. As shown, a system 10 features a user 12, labeled "user A", wishes to receive a service 10 from a service provider 14, labeled "party D". However, user 12 wishes to receive this service with a previously authenticated yet fictional identity. Therefore, user 12 cannot directly contact service provider 14 in order to receive this service.

15 Instead, user 12 contacts a mediator provider 16 in order to receive the service. Mediator provider 16 knows the identity of user 12, and optionally and preferably also has billing information for user 12, in order to be able to charge user 12 for a received service as necessary. More preferably, mediator provider 16 is able to authenticate the identity of user 12.

20 Mediator provider 16 now preferably contacts a service request center 18, optionally and more preferably with a unique "nickname" for user 12. Optionally, mediator provider 16 and service request center 18 can be collectively termed "mediator" and can be implemented together as one unit. The unique nickname does not reveal the identity of user 12, however, but is simply used to indicate which subscriber has actually requested the particular service. Service request center 18 preferably has access to a plurality of service providers, shown herein as service provider 14, a second service provider 20 (labeled as "party E") and a third service provider 22 (labeled as "party F") for the purposes of explanation only and without any intention 25 of being limiting. In this example, user 12 wishes to receive a service from service provider 14, such that mediator provider 16 submits this request to service request center 18. Service request center 18 then sends the request to service provider 14, optionally and preferably with the fictional identity in order to identify which subscriber should receive the service.

30 Service request center 18 and/or mediator provider 16 are optionally and preferably able to verify that user 12 should receive the service from service provider 14. If user 12 should not receive this service, for example because user 12 has not subscribed to the service, then preferably service request center 18 is able to block the request of user 12.

Alternatively, if user 12 is allowed to receive this service but payment is due, then

service provider 14 sends a request for payment to mediator provider 16 through service request center 18. Next, preferably mediator provider 16 is able to collect any payment which is due from user 12.

According to preferred embodiments of the present invention, service provider 14 may 5 optionally ask service request center 18 to register user 12 for the requested service. In this situation, service request center 18 registers user 12 according to the fictional identity, as service request center 18 preferably does not have any other identifying information for user 12. Service request center 18 then tells mediator provider 16 of the success or failure of registration for the subscriber as identified by the fictional identity, in order for mediator provider 16 to be able to 10 inform user 12.

An example for the operation of system 10 is for data transmission services which are given to a cellular telephone subscriber according to a fictional identity. User 12 therefore operates a cellular telephone for receiving the data transmission or other type of service. User 12 sends a WAP (wireless application protocol) message to mediator provider 16, in order to be 15 able to receive a Web page or other WAP-related data from service provider 14. Mediator provider 16 is assumed to a WAP gateway, for example at a cellular telephone service provider. Mediator provider 16 then communicates with service request center 18 to be able to send the request for the WAP-related data to service provider 14, which is assumed to be a WML (wireless mark-up language) server for serving Web pages in WML. Service provider 14 sends 20 the requested Web page to service request center 18, which passes the Web page to mediator provider 16 according to the fictional identity. Mediator provider 16 then sends the Web page to the cellular telephone of user 12.

Additionally or alternatively, service provider 14 could provide the service according to any other cellular telephone data transmission protocol, including but not limited to, CDMA, 25 TDMA, GSM or any other packet data protocol.

For push implementations of the present invention with cellular telephones, if service provider 14 wishes to contact user 12 to send content as part of a "push" mechanism, service provider 14 then sends a request to push the content to service request center 18. Either service request center 18 or mediator provider 16 then preferably determine whether user 12 has 30 permitted such a push of content. If so, mediator provider 16 then receives the content from service provider 14 through service request center 18, and sends the content to the cellular telephone of user 12.

Figure 2 is a workflow diagram of an exemplary method according to the present

invention for operating the system of Figure 1. As shown, user 12 sends the request for a service to mediator provider 16. Mediator provider 16 stores a table, labeled "table B", which provides a unique mapping of the actual identity of each user to the fictional identity for that user. As shown herein as an example only and without any intention of being limiting, table B has mapped user 12 to the fictional identity of "2".

Next, in step 2, mediator provider 16 sends the request for service from the subscriber having the fictional identity "2" to service request center 18. Service request center 18 has a table, labeled "table C", which lists all services which each subscriber is allowed to use, according to the fictional identity of the subscriber and the name of the service provider. For example, table C shows that the subscriber having the fictional identity "2" is allowed to receive a service from service provider 14.

More preferably, this table also shows if the particular subscriber is known by a specific fictional identity to the service provider, either for all services or alternatively for a particular service of that service provider. For example, table C shows that the subscriber having the fictional identity "2" is specifically known to service provider 14 according to the fictional identity of "5". For new registrations of a subscriber, table C is optionally and more preferably updated to reflect the change and/or addition.

Next, in step 3, service request center 18 sends the request for a service from the subscriber having the fictional identity of "5" to service provider 14, having converted the fictional identity of user 12 to the specific fictional identity for that particular service provider.

Service provider 14 now sends the requested Web page to service request center 18 for delivery to the subscriber having the fictional identity of "5". If payment is required, service provider 14 also sends the charge to service request center 18 for the subscriber having the fictional identity of "5". Service request center 18 then converts the fictional identity to "2", and sends the requested Web page and/or charge to mediator center 16 for the subscriber having the fictional identity of "2". Mediator center 16 converts the name to the identity of user 12, and sends the desired Web page and/or charge to the cellular telephone of user 12.

While the invention has been described with respect to a limited number of embodiments, it will be appreciated that many variations, modifications and other applications of the invention may be made.

WHAT IS CLAIMED IS:

1. A method for providing a service to a user through a mediator according to a fictional identity, the user operating a computational device, the method comprising the steps of:
 - (a) sending a request for the service by the user through the computational device;
 - (b) receiving said request by the mediator;
 - (c) assigning the fictional identity to the user by the mediator; and
 - (d) submitting said request to a service provider by the mediator according to the fictional identity.
2. The method of claim 1, wherein the computational device is a cellular telephone.
3. The method of claim 2, wherein the request is for a data transmission according to a cellular telephone data transmission protocol.
4. The method of claim 3, wherein said data transmission is a Web page, said mediator is a WAP gateway and said service provider serves Web pages according to WML.
5. The method of claim 1, further comprising the steps of:
 - (e) receiving the service and a charge for the service by the mediator; and
 - (f) transmitting the service and said charge to the user at the computational device.
6. The method of claim 1, wherein the service is personalized according to the fictional identity.
7. The method of claim 1, wherein the service is provided by a service provider, such that the fictional identity is always identical for requesting the service from said service provider.
8. The method of claim 7, wherein a plurality of services is provided by a plurality of service providers, such that the fictional identity is different for each of said plurality of service providers.

9. A system for providing a service to a user according to a fictional identity, the system comprising:

- (a) a computational device for operation by the user;
- (b) a mediator provider for receiving a request for the service by the user through said computational device, said mediator provider assigning a fictional identity to the user;
- (c) a service request center for receiving said request from said mediator provider according to said fictional identity; and
- (d) a service provider for receiving said request from said service request center, and for providing the service.

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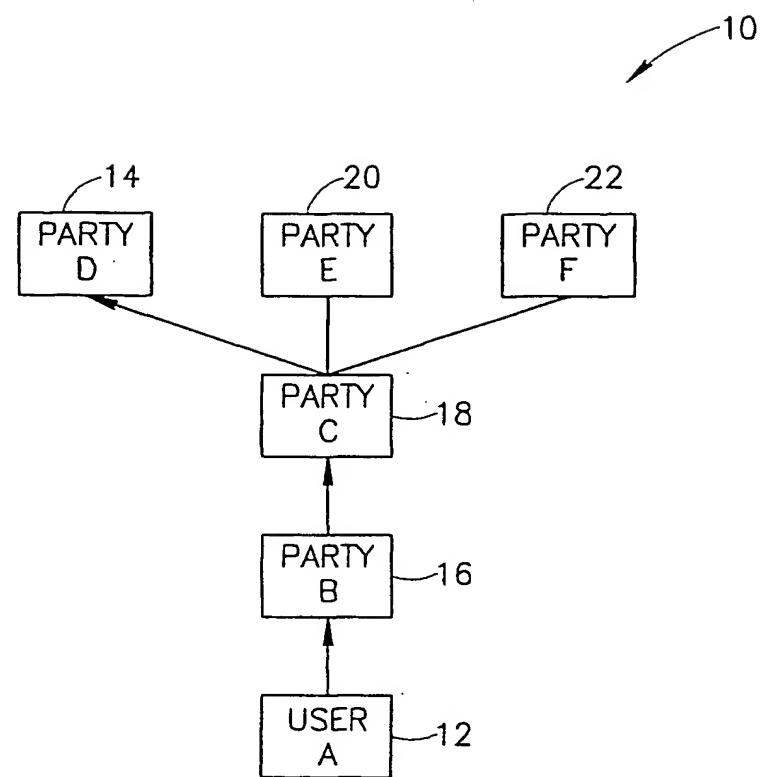


FIG.1

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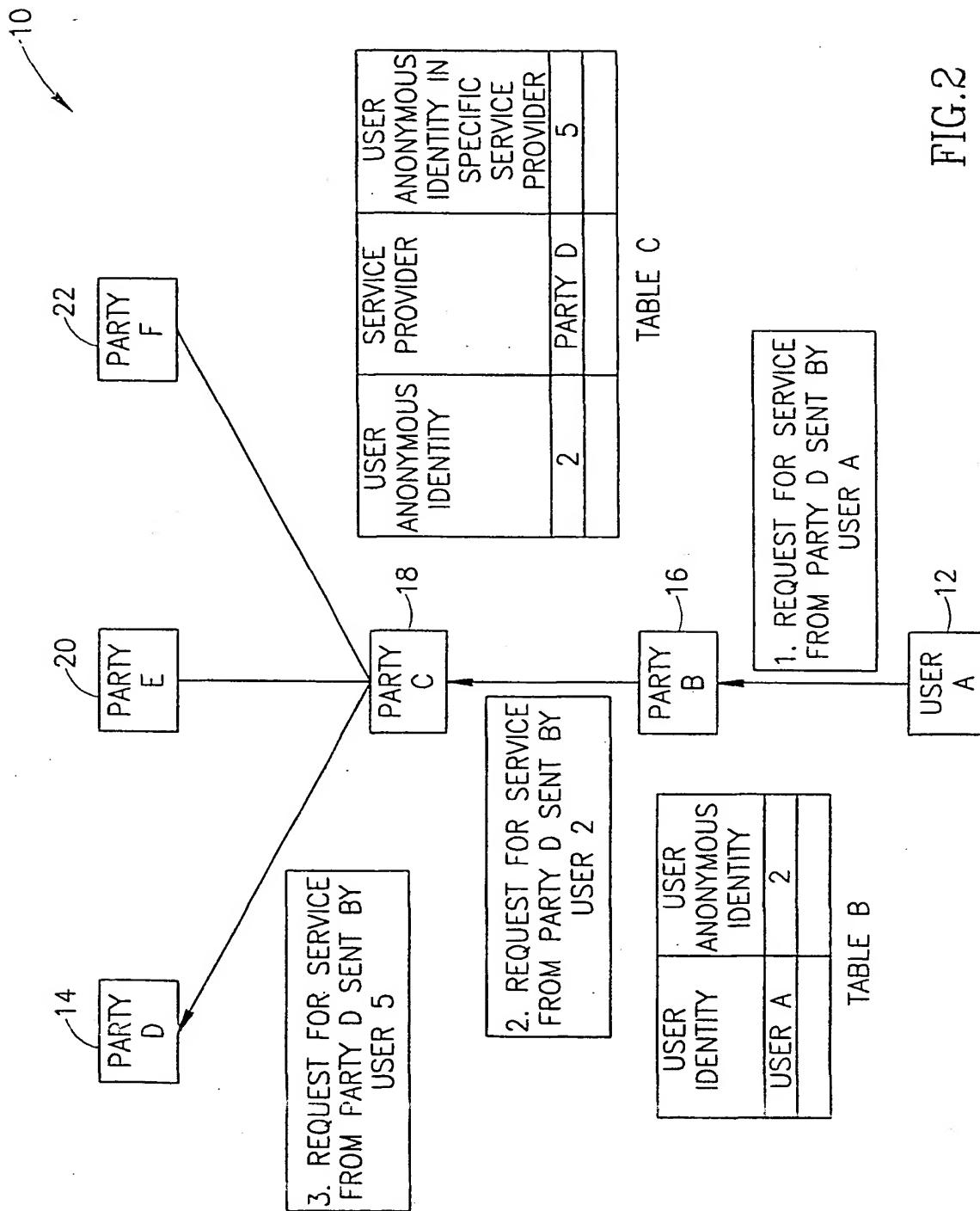


FIG.2

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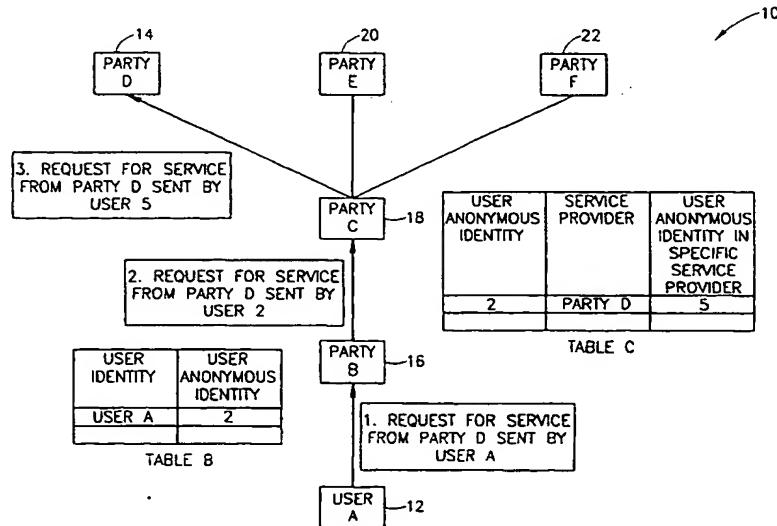
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(57) Abstract: A system and a method for providing a service to a user, optionally through a cellular telephone. The present invention enables the user to send the request to a mediator which is able to identify the user, for example for billing purposes. The mediator then masks the identity of the user, for example with a fictional identity. The request for the service is then sent to a service provider, optionally directly from the mediator, but more preferably through a service request center. The service request center is optionally able to contact a plurality of service providers to request services. The service is then provided to the user, without the service provider being aware of the identity of the user, yet while still being able to provide personalized services specifically for that user.



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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 991 242 A (PHONE COM INC) 5 April 2000 (2000-04-05) the whole document -----	1-9

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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EP 0991242	A 05-04-2000	CN 1249590 A	EP 0991242 A2	05-04-2000

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